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SOIL CONSERVATION LITERATURE  
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"Research is one of the Nation's very  
greatest resources."

Franklin D. Roosevelt

Compiled By The Library Staff Of The Soil Conservation Service  
From Publications Received In The  
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The publications listed herein may in most cases be borrowed from the Library of the Soil Conservation Service by members of the Washington and field staffs.

Field office requests for loans should be submitted by letter through the Regional Office libraries. Complete citations, together with source of references, should always be included.

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*Mildred Benton*

Librarian

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For the benefit of the Regional Personnel and Training Officers there is inaugurated, in this issue of "Soil Conservation Literature", a new section in which are listed recent publications of interest. It is expected that such references will also appear in forthcoming issues under the section heading "PERSONNEL AND TRAINING". Any suggestions for inclusion will be gladly received.

### PERSONNEL AND TRAINING

American municipal association. Toward competent government; the need for training public employees. A review of present methods, and proposals for future development. A report prepared by the American municipal association in cooperation with the International city managers' association and the Civil service assembly 39 numb.1., mimeogr. Chicago, American municipal association, 1936. 249.3 Am33

Conference on in-service training in the federal government. Proceedings of the conference...Saturday and Sunday January 14 and 15, 1939. v.p., mimeogr. Washington, D.C., Education committee, District of Columbia council, United federal workers of America [1939] 249.39 C76

Mason, C.W. and Cleeton, G.U. Modern executive technique. Personnel 15(3):144-148. February 1939.

Emphasizes the strategic importance of the executive in the business organization.

Milwaukee Municipal reference library. Bibliography on pre-entry and in-service training for government service... Eleanor Granger, assistant, Lucile M. Perry, cataloger. 11 numb.1. Milwaukee, Wisc., 1938. 241.3 M64

Niles, H.F. and Niles, M.C.H. Assistance in coordination. Personnel 15(1):26-38. August 1938.

"Coordination in management becomes more difficult and necessary with increase in the size of an enterprise and progressive specialization. As aids to coordination, this study recommends a clear conception of the nature of divisions of functions and authority; a thoughtful determination of the scope of direct supervision; and development of 'staff assistants' who possess a broad knowledge of departmental functions."

Pasdermadjian, H. The planning staff in administrative management. Plan Age 5(3):84-95. March 1939.



Schultz, R.S. Psychological aspects of safety training. Personnel 15(2):81-90. November 1938.

"This helpful article discusses one of the most important aspects of accident prevention, namely, the psychological element. The key man in a prevention program, Dr. Schultz says, is the foreman or supervisor, whose attitude toward society is readily reflected by the individuals under his direction."

Sweet, Lenning. Effective internship training. Personnel 15(2):57-65. November 1938.

"In this very fine description of an intern training program, the author (who is a member of the Training Division, Social Security Board) points out that although the internship plan has suffered many failures, it continues to recur. The reason for its persistence, he believes, is that it has immense possibilities, which are planned for but not very often realized because of improper administration."

U.S. Bureau of foreign and domestic commerce. Division of business review. Some references on office management. 3pp., mimeogr. Washington, D.C. [1938] 157.55 So52

U.S. Bureau of foreign and domestic commerce. Division of business review. Some references on personnel management. 4pp., mimeogr. Washington, D.C. 1938 157.55 So53

U.S. Dept. of agriculture. Graduate school. Administrative management, principles and techniques. A series of lectures by outstanding leaders in the management field delivered in the graduate school of the Department of agriculture, from October to December 1937. 108pp., illus. Washington, [c]1938, 1 Ag854A

Lettered on cover: A short course in the application of management principles in the public service.

"Books on administrative management and related subjects", pp. 106-108.

U.S. Farm security administration. Tenant purchase division. The principles of conference planning for training purposes (Address by Paul V. Maris... before the annual conference of personnel advisors... October 12, 1938) 23 numb. 1., mimeogr. [Washington, D.C.?] 1938, 1.95 T25A

U.S. Tennessee valley authority. Personnel department. In-service training - an aid in personnel administration. v.p. [Knoxville] July 1938 173.2 T25Ins

U.S. Tennessee valley authority. Personnel department. Training division. Training program for assistants in the personnel department. rev., 37 numb. 1., mimeo. [Knoxville, Tenn.?] 1938-39. 173.2 T25Tra rev. Contains bibliographies.

U.S. Works progress administration, New York City. Supervisor's and foreman's handbook. 73pp., processed. New York, Works progress administration for the city of New York, [1938] 249.3 Un3S

PERIODICAL ARTICLES

Aerial Photography

Gardner, I.C. Relation of camera error to photogrammetric mapping.  
U.S. Natl. Bur. Standards. Jour. Research 22(2):209-238, illus. February  
1939.  
Research paper RP1177.

Glover, P.E. The utility of aerial photographs as an aid to botanical  
survey. Jour. So. African Bot. 4(2):33-44. April 1938.  
Article indicates that aerial photographs were advantageous in  
carrying out investigations on the ecology of the flora in relation  
to the geology and other factors of the region, on a farm near Oberholzer  
on the West Rand.

Dams

First Mississippi flood-control dam. Engin. News-Rec. 122(11):376-379,  
illus. Mar. 16, 1939.

"Sardis dam on a tributary of the Yazoo river in Mississippi adds  
the first headwaters detention reservoir to the modern flood-control  
works of the lower Mississippi river. Nearly 13,850,000 cu. yd. of  
hydraulic fill in a 2 3/4 mile earth embankment of 16,760,000 cu. yd.  
forms a flood detention reservoir of 1,500,000 acre-ft. capacity. As  
the first of several flood-control dams listed in the revised lower-  
Mississippi flood-control plan and as a trial of delta soils for  
hydraulic fill the work has great experimental interest.

Hansen dam preliminaries started by Guy F. Atkinson. Grading operations  
started on large rolled earthfill structure being built by U.S.  
Engineers for flood control near Los Angeles. West. Construct. News  
13(11):414-415, illus. November 1938.

LCRA (Lower Colorado River Authority) announces flood policy. Texas agency  
will raise Marshall Ford dam and use storage only for flood control.  
Engin. News-Rec. 122(12):407-416. Mar. 23, 1939.

Thomas, H.A. and Hamilton, W.S. Jet deflectors for high-dam outlet con-  
duits. Designs for a variety of situations developed by model tests  
at Carnegie Institute of Technology. Civ. Engin. 9(5):297-300, illus.  
May 1939.

"The high-velocity jets from the outlet conduits of a large dam  
present a serious problem of erosion control... Satisfactory solutions  
of such problems can be obtained only by tests on models, and here  
Messrs. Thomas and Hamilton present the results of an extensive series  
of these tests, made for a number of War Department dams in West  
Virginia and Pennsylvania..."



### Duststorms

Martin, R.J. Duststorms of 1938 in the United States. U.S. Mo. Weather Rev. 67(1):12-15. January 1939.

### Evaporation

Hickman, H.C. Evaporation experiments. Amer. Soc. Civ. Engin. Proc. 65(4): 596-606, illus. April 1939.

Part of "A Hydrology of the Great Lakes. A Symposium."

"The evaporation experiments reported in this paper were conducted at Duluth, Kewaunee, Detroit and Buffalo... The experiments indicate that the effect of the wind on evaporation is fundamentally different from that indicated by the common evaporation formula. The rate of evaporation from open-water surfaces when the air temperature is below freezing has been investigated for the first time."

Koshanov, K.J. Evaporation through vegetation and open surface of turf ground. Meteorol. i Hidrol. 4(6):113-122, illus. 1938.

Article in Russian.

French summary in Zentrabl. Geophysik Meteor. und Geodasie 3(7):330. Feb. 24, 1939.

### Floods and Flood Control

Covell, W.E.R. Flood control in the Pittsburgh district. Mil. Engin. 31(177):177-181, illus. May/June 1939.

Fisher, E.A. and Covas, P.A. Genesee river flood control at Rochester, N.Y. Civ. Engin. 9(5):305-308, illus. May 1939.

Condensed from a longer paper delivered before the Rochester meeting of the American Society of Civil Engineers.

Richards, B.D. Further note on flood-hydrographs. Jour. Inst. Civil Engin. 11(6):585-610, illus. April 1939.  
Paper no. 5206.

Use of asphalt revetments extended after flood test. Experiments of last few years along channels of Los Angeles flood district expanded this season by laying of 360,000 sq. ft. of protective paving on levees. West. Construct. News 13(12):430-431. December 1938.

Stream bank control projects carried out by the Los Angeles County Flood Control District.

### Grass and Grass Seeds

Beeler, M.N. New Buffalo grass. Capper's Farmer 50(4):9, illus. April 1939.

Reports a "high seed bearing strain of buffalo grass" now under development at the Fort Hays Branch of the Kansas Experiment Station.

Burton, G.W. Scarification studies on southern grass seeds. Jour. Amer. Soc. Agron. 31(3):179-197, illus. March 1939.



Cardon, P.V. Toward a grassland agriculture. Jour.Amer.Soc.Agron. 31(3):229-231. March 1939.

The writer expresses the opinion that "what we are now doing with grass could be better done, if conceived and implemented in the light of an accepted grassland philosophy."

That philosophy would take account of at least these assumptions:

"1. That the ideal of soil conservation in America will become a fact when farm practice generally accepts and includes in cropping systems grass as grass and not as an expedient...

"2. Farmers will accord to grass its proper place in American agriculture when they become convinced that grass culture is economically feasible not only as a dependable source of feed for livestock, but as a soil-improving crop to be reflected in the returns from other crops and as an otherwise legitimate component of cropping enterprise.

"3. To this end, all research, educational, and action agencies could well afford to align their forces..."

Also in Herb.Rev.7(1):7-9. March 1939. Title is "The trend towards a grassland agriculture in the United States."

Editorial on article in Better Crops With Plant Food 23(3):27-28. March 1939.

Hermann, Wilford and Eslick, Robert. Susceptibility of seedling grasses to damage by grasshoppers. Jour.Amer.Soc.Agron.31(4):333-337. April 1939.

"Literature cited," pp.336-337.

Contribution from the Division of Agronomy, Washington Agricultural Experiment Station, Pullman, Wash.

Smith, M.A. Grasses that are adapted for ranges. Utah Farmer 58(12):12. Feb.10, 1939.

The writer gives results obtained over a period of 30 years since 1908 in Wasatch county, Utah in the Wallsburg area, also since 1910 in and near the Deep creek area, on the east end of Wasatch county and since 1925 in Routt and Moffat county, Colorado.

Tindall, Cordell. Grass comes back. Livestock raising fits more farms than ever before. Missouri Ruralist 80(6):3, 18, illus. Mar.18, 1939.

Several Missouri farmers cite the principles of a year-round pasture system, using winter rye, crimson clover, winter vetch and Sudan grass.

### Green Manuring

Purvis, E.R. and Blume, J.M. The role of green manures in potato production. Amer.Potato Jour.16(2):32-36. February 1939.

### Highway Erosion Control

Davis, A.M. Highway erosion control in soil conservation districts. Soil Conserv.4(10):249-251, illus. April 1939.

Nevada uses wire baskets to protect highway slope. Raveling sidehill cut on major highway retained by terrace of stone-filled baskets - improvement reduces maintenance work and increases safety. West. Construct.News 13(11):394-395, illus. November 1938.

## Hydraulics and Hydrology

Ballantyne, A.M. Solution of problems of hydraulic jump by graphical methods. Civ. Engin., London, 33(387):332-335, illus. September 1938.

Bellasis, E.S. Flow in open channels. Indian Engin. 103(4):135-136, April 1938; 103(6):189-190, June 1938.

Review of formulas of flow of water in wide or artificial channels including comments on G. Lacey's diagram and formulas.

Roessel, B. Een hydrologische studie over het wezen der retentie in den waterafvoer (Hydrological study of the nature of retention in the water cycle) Tectona 32(1):1-82, illus. January 1939.

"Literatuur", pp. 72-73.

Article in Dutch.

## Irrigation and Drainage

Grower uses old license plates as irrigation aid. Calif. Citrogr. 24(5):196, illus. March 1939.

To control the flow of irrigation water, and to obtain deeper penetration and reduce soil erosion, Dr. L. R. Dattler, orange grower of Santa Susana, uses old license plates in furrows.

Kulp, M.R. Good irrigation conserves soil. Utah Farmer 59(6 i.e. 7):10. Oct. 25, 1938.

Logan, H.M. Against drouth. Capper's Farmer 50(4):11, illus. April 1939.

Describes satisfactory well irrigation experiences among Kansas farmers.

Soil conservation on irrigated lands. Pacific Rural Press 137(11):256-257. Mar. 18, 1939.

Suggests remedies for control of erosion on sloping agricultural land in California.

Sprinkler irrigation use studied. Operation and cost data reported by SCS (Jack Rodner, Ellensburg, Wash.) Oreg. Farmer 62(6):139. Mar. 16, 1939.

Taylor, C.A. Advantages of broad-furrow irrigation. Pacific Rural Press 137(11):262-263, illus. Mar. 18, 1939.

## Land Utilization

First Kansas conservation district uses planning committee findings. U.S. Dept. Agr. Ext. Serv. Rev. 10(3):33. March 1939.

"Labette county, Kansas is a specific example of the contribution of land-use planning to action programs."



Kifer, R.S. The place of farm management in a general program of land use planning and land development. Southwest.Soc.Sci.Quart.19(3): 281-291. December 1938.

"This discussion has tended to be as much a statement of farm management problems as a definition of the place which farm management research has in the general land program in the Southern Great Plains."

Wolcott, Leon. National land-use programs and the local governments. Natl.Munic.Rev.28(2):111-119. February 1939.

Opportunities for strengthening of local governments in rural areas is seen in regulation of land use by federal government.

### Leaching

Harvey, E.W. Nitrates and the weather. Amer.Fert.90(2):5-7, 24. Jan.21, 1939.

"Why so much caution about leaching? Do nitrates actually leach? If so, are they permanently lost or do they come back - and if they come back, are they really leached? What is the answer?"

"This article attempts an analysis of the problem."

Karraker, P.E. Nitrogen removed by drainage and cropping from lysimeters as affected by kind of vegetative cover. Com.Fert.58(3):18-19, illus. March 1939.

Paper given before Association of Southern Agricultural Workers, 1939.

### Legumes

Crotalaria, a new poor land crop. Missouri Ruralist 80(7):1, 14, illus. Apr.1, 1939.

Crotalaria "shows promise of becoming even more of a favorite" in southeast Missouri than lespedeza.

Culbertson, R.E. Birdsfoot trefoil - a promising legume for the northeastern states. Soil Conserv.4(10):242-244, 249, illus. April 1939.

Farmers reclaim alkaline areas by planting strawberry clover. Colo. Wool Grower 5(1):6. March 1939.

According to T.G.Stewart, soil conservation specialist, Colorado State College "hundreds of acres of almost worthless alkaline areas have been reclaimed and are now valuable livestock pastures of strawberry clover, the most resistant to alkali of any of the high-protein-containing legume pasture crops."

Graham, E.H. Legumes for erosion control and wildlife. Soil Conserv. 4(9):210-211, illus. March 1939.

Table lists legumes most used by wildlife.

Condensed version in Conservation 5(2):44-45. Mar/Apr.1939.

### Lespedezas

Albrecht, W.A. and Klompare, A.W. Limestone mobilizes phosphates into Korean lespedeza. Jour.Amer.Soc.Agron.31(4):284-286, illus. April 1939.



Stitt, R.E. Dodder control in annual lespedezas. Jour. Amer. Soc. Agron. 31(4):338-343. April 1939.  
"Literature cited," p. 343.

### Library and Research

Graf, D.W. The library and engineering research. Agr. Engin. 20(4): 145. April 1939.

### Meteorology Bibliography

Zoch, R.T. A brief list of works on meteorology. U.S. Mo. Weather Rev. 67(1):1-3. January 1939.

The list is divided into the following classifications: Popular and elementary works; General treatises; Clouds; Dynamic meteorology; Weather and weather forecasting; Aeronautical meteorology; Agricultural meteorology; Atmospheric electricity; Frost; Instruments, instructions, tables; Marine meteorology; Storms; Climatology; Climatography; Leading meteorological journals; Meteorology in relation to stream flow.

### Permeability

Carman, P.C. Permeability of saturated sands, soils and clays. Jour. Agr. Sci. 29(2):262-273. April 1939.  
"References," p. 273.

Summary: "It is shown that the permeability of a water-saturated sand or fine powder can be calculated with considerable accuracy, if the porosity and the specific surface are known. In particular, the Kozeny theory here discussed leads to a very useful relationship between permeability and porosity. It is shown that clays do not conform to the theory in its simple form, but that it may be modified to give a satisfactory representation of the data available. The physical grounds for this modified theory are discussed in some detail, and it is shown that, while it is open to criticism, it is at least in harmony with our present knowledge of clays.

"An important deduction which follows from the modified theory is that clays may have zero permeability at quite considerable porosities, e.g. at  $e=0.207$  for a clay soil, and  $e=0.355$  for a plastic clay."

### Range and Pasture Management

Beeler, M.N. Recovering ranges. Capper's Farmer 50(5):9, illus. May 1939.

Specific directions offered by L.C. Aicher of the Fort Hays (Kansas) Agricultural Experiment Station for reestablishing native sods by the "hay method".

Gabrielson, I.N. Range restoration. Bird-Lore 41(2):63-66, illus. Mar-Apr. 1939.

Findings in areas such as the Charles Sheldon Antelope Refuge and Range in Nevada and the Hart Mountain Refuge in Oregon where land that was once badly overgrazed is now fenced, lends encouragement to conservationists. According to the author grass and other vegetation have "made an astonishing comeback in the past four years".

Oregon grazing district no.1.Cooperative survey. U.S.Dept.Interior.  
Div.Grazing.Grazing Bull.2(3):4-7. April 1939.

A summary of the findings of the range,soils and economic survey recently completed by the range surveys unit of the Division of Grazing in cooperation with the Soil Conservation Service.

Robinson,C.W. Tests for the permeability of soils. Boston Soc.Civ. Engin.Jour.25(3):394-408,illus. July 1938.

"The author describes the construction and operation of a soil permeameter arranged for constant heading,for upward as well as for downward flow,and for the insertion of three piezometers opening at different levels into the soil column,together with two additional piezometers,one above and one below the soil column.

"The rate with which a soil will permit water to flow through it is of prime importance in the design of practically all structures in contact with earth.It is of especial importance in the design of earth dams,foundations on more or less plastic soils,retaining walls and cofferdams.'It is pointed out that a study of disturbed samples, of which the natural structure has been lost,is justifiable in connection with such constructions,in that'the material in the dam will have little,if any structural relation to the material in its natural state.The soil under the dam will be much compressed and altered and will differ considerably in structure from what it was previous to the placing of the dam.Therefore,disturbed samples are satisfactory for most purposes in preliminary work at least."-Exp.Sta.Rec.80(3):403. March 1939.

Smith,A.L. Range utilization and improvement.Many stockmen improving holdings as result of AAA range program. Cattleman 25(10):97-101, illus. March 1939.

Paper presented to Animal Husbandry Section of the Association of Southern Agricultural Workers,New Orleans,La.,Feb.3,1939.

Squaw Butte range livestock experiment station. U.S.Dept.Interior. Div.Grazing.Grazing Bull.2(3):14-15. April 1939.

Describes conditions and set-up of the experimental range in southeastern Oregon designed to secure quantitative and qualitative information concerning the natural vegetative growth and the effect thereon of different methods and intensities of grazing.

Throckmorton,R.I. Contour furrowing pastures. Country Gent.109(5): 87,illus. May 1939.

### Reservoirs

Horton,R.E. Density currents in reservoirs and lakes. Civ.Engin. 9(4):254. April 1939.

Remarks concerning density currents in reservoirs as described by Jack L.Hough in an article entitled "Underflow in Lake Lee,North Carolina,"appearing in Civil Engineering,January 1939.

Water for lower Rio Grande valley.Studies of American reservoir sites follow recommendations of special engineering board. Engin.News-Rec. 122(15):487-488. Apr.13,1939.



### Run-off

Farrow, R.C. Snow surveys, a new medium for forecasting run-off. Pulp and Paper Mag. Canada 39(13):883-890, illus. December 1938. Reproduced, by arrangement from The Engineering Journal, October 1938.

Griffith, J.R. Construction design chart. XXXVI...Runoff in farming country. West. Construct. News 13(12):449, illus. December 1938. Burkli-Ziegler formula for determination of run-off from a given drainage area, useful in determination of culvert size.

Holmes, J.M. and Maze, W.H. The control of rain run-off; an experiment in the Tamworth district, New South Wales. Aust. Geogr. 3(5):37-41. November 1938.

"This paper describes an experiment, the success of which restores the balance between road and field drainages. Further, it establishes a new principle in erosion control measures, for whereas most methods to date make efforts to drain the surplus rain water off paddocks into creeks where it may be allowed to run to waste, the above method demonstrates that better dispersion within the property will obviate the necessity of outlets for surplus rain run-off. Further, the additional moisture retained in the paddock will be beneficial to crops in areas with a rainfall regime comparable with that of the wheat belt of New South Wales."

Sherman, L.K., Zoch, R.T. and Bernard, Merrill. Analysis of run-off characteristics. Discussion. Amer. Soc. Civ. Engin. Proc. 65(3):511-526, illus. March 1939.

Discussion of article of same title by O.H. Meyer appearing in November 1938 Proceedings.

Snyder, F.F. and Hoyt, W.G. Analysis of run-off characteristics. Discussion. Amer. Soc. Civ. Engin. Proc. 65(4):686-692, illus. April 1939.

Discussion of paper of same title by Otto H. Meyer appearing in November 1938 Proceedings.

### Sedimentation and Silt

Bauer, S.G. A theory of silt transportation. Discussion. Amer. Soc. Civ. Engin. Proc. 65(3):463-464. March 1939.

Discussion of paper of same title by W.M. Griffith appearing in May 1938 Proceedings.

### Soil Conservation

Allen, R.C. Soil conservation in the garden. Gard. Chron. Amer. 43(3):81-82. March 1939.

"In this day and age, almost everyone recognizes the importance and value of conserving the nation's soil, but few appreciate that it is not necessarily limited to governmental agencies. In a sense, it is a duty and moral obligation that every gardener should improve the quality and productivity of his soil, which is his heritage and from which he derives much pleasure. From a gardening point of view, no problem is as fundamental as that of the soil - its management and its conservation."



Barger, Cecil. How turkeys help save the soil. Missouri Ruralist 80(6):14. Mar.18,1939.

An Adair County, Missouri farm, too rolling to be suited for cropping without heavy losses from soil washing and erosion, has been seeded to bluegrass and meadows, which cuts erosion losses to a minimum.

"And what is better to raise on this grass than - turkeys?"

Bast, Homer. The conservation of southern soil. Univ.Va. News Letter 1 5(8):1. Jan.15,1939.

Bond, R.M. and Borell, A.E. Rodents and soil conservation. Soil Conserv. 4(9):220-223. March 1939.

The authors venture the opinion that until a scientific study of the question is effected, "we cannot know whether or not the control of rodents will aid the control of erosion".

Burrows, G.M. Soil conservation service experimental work shows remarkable results on grass lands of Curry county (New Mexico) N.Mex. Stockman 4(3):18-19, 21, illus. March 1939.

Ciriacy-Wantrup, S. von. Land conservation and social planning. Plan Age 5(4):1 09-119. April 1939.

A rewriting and enlargement of part of the article entitled "Economic Aspects of Land Conservation" which appeared in Journal of Farm Economics, May 1938.

Co-operative soil conservation. Farmer's Weekly (South Africa) 56:1379. Feb.1, 1939.

"The Soil Erosion Committee appointed by the East Griqualand farmers congress, is contemplating the formation of a co-operative company with the sole purpose of purchasing machinery for anti-erosion works and soil conservation... It is suggested that the Government shall be asked to subsidise the scheme on the basis of £ 2 for every farmers' £ 1."

Develop educational program for soil-conservation districts. U.S. Dept. Agr. Ext. Serv. Rev. 10(3):48. March 1939.

Reports agreements reached during conference between representatives of the Extension Service and the Soil Conservation Service held the last of January 1939.

Manweiler, Jack. Minnesota's 'big bog'. Minn. Conservationist, no. 63: 12-13, 24-25, 28, illus. December 1938.

First of three articles describing the conservation work being done in the "Big Bog" area in northern Minnesota above Red lake.

Manweiler, Jack. Wildlife management in Minnesota's "Big Bog". Minn. Conservationist, no. 64:14-15, 23, 27, illus. January 1939.

Manweiler, Jack. Woodland caribou in the "big bog". Minn. Conservationist, no. 65:16-17, 23, 30, illus. February 1939.

Describes "a spectacular experiment" which "has averted complete disappearance of this valuable big game species."

No taxes on soil saving, beauty, etc. Prog. Farmer and South. Ruralist (Car-Va. ed.) 54(5):5. May 1939.

Following is the tax policy adopted by the North Carolina state legislature: "It is hereby declared to be the policy of the State so to use its system of real-estate taxation as to encourage the conservation of natural resources and the beautification of homes and roadsides and all tax assessors are hereby instructed to make no increase in the tax valuation of real-estate as a result of the owner's enterprise in adopting any one or more of the following progressive policies...Terracing or other methods of soil conservation, to the extent that they preserve values already existing; Protection of forests against fire; Tree planting for reforestation purposes (for 10 years after planting)."

Rice, C.M. A weekender's adventures in conservation. Wild Flower 16(1):1-6, illus. January 1939.

To be continued.

The writer indicates that when the word conservation brings to our attention great masses of statistics relative to the tremendous loss we have suffered in all natural resources "we think of these as being a challenge to the Federal and State Governments. Most of us feel no personal obligation to help solve the problem." He says that "purely by accident" he found himself doing some conservation work in a small and casual way. It is his purpose in writing this article to inform others how conservation work can be an interesting and fascinating recreation in which nearly anyone can participate.

Sloan, S.L., Jacklin, A.W. and Kaiser, V.G. Soil-conserving and soil-improving crop rotations for the Palouse. Jour. Amer. Soc. Agron. 31(4):300-313, illus. April 1939.

"Literature cited," p. 313.

Presented at annual meeting of American Society of Agronomy, Washington, D.C. Nov. 16, 1938.

### Soil Conservation. Study and Teaching.

Beecher, George. Local resources for the sciences and social studies. Prog. Educ. 16(3):169-173, illus. March 1939.

A suggestion for study of the soil in Alamance county, North Carolina.

Blough, G.O. Illustrated unit of work. Studying our natural resources. Instructor 48(7):41-48, illus. May 1939.

There is a portion devoted to soil and water conservation.

Gross, D.L. Extension methods. Jour. Amer. Soc. Agron. 31(3):255-264. March 1939.

In this discussion of extension methods illustrations are given to show how the extension service may so adapt its programs and its projects that they will lend themselves to leadership development, group action, integration work of all agencies dealing with agricultural problems, and coordination of the efforts of specialists within the extension service.

Cooperation with the Soil Conservation Service in Nebraska is one illustration cited. Level schools are mentioned in particular.



Heffernan, Helen. What of conservation in your school? West. Jour. Educ. 45(2):8-10, illus. February 1939.

"Recent references on conservation", p.10.

New Mexico school review, v.18, no.7, pages 2-19, illus. March 1939.

This is a land use and conservation issue.

Articles of interest are the following: The land use and conservation issue, by J.B. Tappan, p.2; Conservation of land and life, by G.J. Corrigan, p.3; The land our children will inherit, p.3; Broadening our outlook, by L.S. Tireman, p.4; The common good, by H.C. Seymour, p.4; Our land; a joint message to the teachers of New Mexico, by F.C.W. Pooler and H.G. Calkins, pp.5-6; New Mexico: a study in two populations, by E.F. Maes, pp.7-8; Conservation and the school curriculum, by M.M. Hughes, pp.9-10; An adventure in learning, by Anne Raymond, pp.11-12; A teaching unit in land study, by M.G. Kimbrough, pp.13-14; The study of the land and its relation to living, by Mary Watson, pp.15-17; Silver City studies the land, by E.L. Martin, p.18; Soil conservation - the teacher's viewpoint, by H.H. Ketman, p.19; An Indian school science class develops its own subject matter outline, by R.C. Kendrick, p.19.

Quaintance, C.W. Should we have national textbooks on conservation teaching? School Sci. and Math. 38(7):789-795. October 1938.

Strong, H.M. Soil, water and forest in life and education. Prog. Educ. 16(3):174-181, illus. March 1939.

### Soil Erosion

Ballantyne, A.M. Erosion problems at the foot of weirs and sluices. Civ. Engin. [London], 33(385):255, illus. July 1938.  
Bibliography, p.255.

Bennett, H.H. Fire, floods and erosion. Amer. Forests 45(4):174-176, 229, illus. April 1939.

Bennett, H.H. A permanent loss to New England. Soil erosion resulting from the hurricane. Geogr. Rev. 29(2):196-204, illus. April 1939.  
Cites evidence showing that soil loss was less in areas where soil conservation practices are in force.

Cox, J.F. Farming on rubber. Increased efficiency in seed production. Seed World 45(7):8-9. Apr. 7, 1939.

"In controlling erosion, rubber tires on tractors and all wheeled equipment are a great advancement in that pneumatic tires do not cut deeply into the soil as do steel wheels and lugs. Both water and wind erosion are less where rubber-tired equipment is used. These small pneumatic-tired tractors are excellent in making terraces and now that several million acres of land have been terraced, their use is highly desirable in the maintenance of terraces, since they do not start ruts that soon become gullies which destroy the terraces if not repaired."

Klemgard, Gordon. Practical erosion control as applied to grain in the Palouse country. Northwest Sci. 13(1):16-19. February 1939.



McColly, H.F., and Farmer, W.H. Snow ridging to conserve moisture and decrease erosion. N.Dak.Agr.Expt.Sta.Bimo.Bull.1(4):32-35, illus. March 1939.

Ricker, P.L. Taming and conserving wild flowers. Wild Flower 16(1): 7-10. January 1939.

Substance of a coast to coast question and answer radio broadcast from station WJSV, May 5, 1938, auspices of Science Service.

Urges the establishment of wild flower preserves in natural areas which, aside from their aesthetic and educational value, are essential in every region, particularly along river valleys, as a means of erosion control.

Wodehouse, R.P. Weeds, waste and hayfever. Nat.Hist.43(3):151-163, 178, illus. March 1939.

"Hayfever is nature's reply to man's destructive and wasteful exploitation of natural resources just as much as is soil erosion, wind erosion and floods."

#### Soil Erosion and Control. Foreign Countries.

Bresadola, Cipriano. Le sistemazioni idraulico-forestali nella Valtellina e nella Valle Camonica (Forest and water conservation in Valtellina and the Valle Camonica) Alpe 25(11/12):450-462, illus. Nov/Dec.1938.

Curwen, E.C. The plough and the origin of strip-lynchets. Antiquity 13(49):45-52, illus. March 1939.

The author who indicates that he has had "considerable experience in planning and sectioning the lynchets of the Celtic field-system" discusses statements made by C.S.Orwin in "The Open Fields" in which doubt is expressed as to the origin of step-like terraces in Bishopstone(Wilts.)

Giglioli, G.R. Le sistemazioni idraulico-agrarie dei terreni nell'Africa Italiana (The water regulation of the lands of Italian Africa) Agr.Colon.32(11):481-496, illus. November 1938.

Article in Italian.

"Four zones are distinguished, in which erosion may be manifested in more or less serious forms, the wind being the chief cause of danger in one zone, the action of rains and above all of man in the other three. Methods of water control and of the prevention of erosion are discussed." - G.M.R. in Herb.Absts.9(1):76. March 1939.

Gorrie, R.M. The conservation of Punjab water supplies. Indian Forester 64(11):675-687. November 1938.

This paper was read by Dr.Gorrie at the last session of the Punjab Engineering Congress.

Haralamb, At. Corectiuni de torenti pe valea Prahovei (Torrent correction in the Prahova valley) Rev.Padurilor 50(5):483-491, illus. May 1938.  
Article in Rumanian; French summary.

Joshi, K.V. and Kanitkar, N.V. Drain of India's agricultural wealth or the problem of soil erosion in India. Agr. and Live-stock in India 9(1):10-17, illus. January 1939.

Ludbrook, W.V. Improved strains of lupins, and their possible value in Australia. Jour. Aust. Inst. Agr. Sci. 4(4):196-198. December 1938.

"Many thousands of acres of bitter lupins, including Lupinus hirsutus, L. pilosus, and L. varius are now more or less naturalized on sandy soils in western Australia, where they are highly valued for the reduction of wind erosion, the addition of nitrogen and humus to soil, and as summer and autumn sheep feed. Lupins are also grown on sandy ridges in parts of the Victorian and South Australian mallee wheat areas, where their main use is to reduce wind erosion."

Noyes, J.R. Land reclamation and shore protection in the Netherlands. Mil. Engin. 31(177):212-216, illus. May/June 1939.

Petrus. Skogen återerövrar det magra Skåne. En tydlig tendens att överföra sämre åkerjord till skogsmark. (Afforestation in Skane. Reclamation of poor sandy land and its protection from drifting sand) Skogen 26(1):3-6, illus. Jan. 1, 1939.  
Article in Swedish.

Roux, G. Le pin maritime en Basse-Bretagne (The maritime pine in Basse-Bretagne). Rev. Eaux et Forêts 76(12):991-996. December 1938.  
Article in French.  
Fixation of dunes and afforestation of unproductive land.

Scaetta, H. Les prairies phyophiles de l'Afrique occidentale française. 1. Les foins du Fouta-Djallon (Guinée française) (The pyrophilous prairies of French West Africa. 1. The hays of Fouta Jalon (French Guinea)) Rev. Bot. Appl. 18(207):773-784. November 1938.  
Article in French.

"Visiting the Fouta Jalon plateau in 1937 at the end of the rainy season, when even on the most sterile soils the grass is still green, the author was impressed by the sparseness of the herbage and the famished appearance of the cattle. Nine samples were collected... sent to the Natural History Museum, Paris for analysis and this analysis shows them to be extremely poor in nutritive value... and to reflect the general state of degradation to which the region has been reduced. Their composition in relation to the ecological history is discussed. The local climax (probably forest of the Parinarium excelsum type) has disappeared, and erosion has done its part in degrading the soil and reducing plant cover to its present poor savannah type. While the climate... has... been favourable to the transformations which have taken place, it would not have had any such effect but for the 'brutal and persistent' intervention of man, who has throughout the ages destroyed all forest growth in order to lead a pastoral life..."  
G.M.R. in Herb. Absts. 9(1):3. March 1939.

Thompson, A.W. Some aspects of soil conservation, based on observations in the central and north Kavirondo native reserves. East Afr. Agr. Jour. 4(4):272-277. January 1939.



Vorster, P.W. Soil-erosion control in the Union. Conservation of water and control of soil erosion by means of small earthen dams. Farming So. Africa 14(154):14, illus. January 1939.

Watson, G.C. Erosion and Africa's soil resources. United Empire 30(2):701-702. February 1939.

Contents that "the present system of trade which demands more and more foodstuffs and raw material is threatening destruction to much of Africa's arable land by erosion."

### Soil Microbiology

Soil insects in relation to land fertility - A symposium. Agr. Prog. 15(3):171-183. 1938.

Contents: (1) Wireworms, by Herbert W. Miles; (2) Eelworm problems in the south west, by L. N. Staniland; (3) Weevil larvae, by W. E. H. Hodson; (4) Chafer larvae, by A. Roebuck.

### Soil Moisture

Bouyoucos, G. J. and Mick, A. H. A method for obtaining a continuous measurement of soil moisture under field conditions. Science 89(2307): 252. Mar. 17, 1939.

"A method has been devised for making in situ under field conditions a continuous measurement of soil moisture. It consists of imbedding in the soil a standardized block of  $\text{CaSO}_4$  (gypsum). The moisture content of this material varies directly with that of the soil. Since the dielectric constant of gypsum is proportional to its moisture content, a measure of the conductivity of the block is a measure of soil moisture. Conductivity determinations are easily made by means of electrodes and a form of the Wheatstone bridge.

"This device measures soil moisture ranging from the wilting point to the field capacity or it is really a measure of the available water. It denotes the wilting point accurately. By knowing the wilting point and the available water, the total water content is thereby also known. The method possesses a surprisingly high degree of accuracy." (Entire item quoted.)

Heyward, Frank. Some moisture relationships of soils from burned and unburned longleaf pine forests. Soil Sci. 47(4):313-324, tables, plates. April 1939.

### Soil Studies

Bouyoucos, G. J. A sensitive hydrometer for determining small amounts of clay or colloids in soils. Bull. Amer. Ceramic Soc. 17(6):254, illus. June 1938.

Kummer, F. A. The dynamic properties of soil. VIII. The effect of certain experimental plow shapes and materials on scouring in heavy clay soils. Agr. Engin. 20(3):111-114, illus. March 1939.

"Literature cited," p. 114.



Vibert, A. Le mouvement de l'eau dans le sol. Nouvelles formules pour le calcul du débit des nappes (The movement of water in the soil. New formula for calculating the effect of water bearing beds) Génie Civil. 114(10):216-217, illus. Mar. 11, 1939.  
Article in French.

Zunker, Ferdinand. Vorschläge für begriffsbildungen in der boden und grundwasserkunde (Recommendations for definitions of types of water in the soil) Soil Research 6(3):202-216. 1939.  
Article in German.

### Spillways

Camp, C.S. and Howe, J.W. Texts of circular weirs. Civ. Engin. 9(4): 247-248, illus. April 1939.

"The frequent use of drop inlet, or 'morning glory' spillways has called attention to the need for information regarding the proper shape of the inlet below the crest. Data useful in this connection have been obtained in the laboratory of the Iowa Institute of Hydraulic Research by tests to determine the location of the upper and lower profile of the nappe of a vertical sharp-crested weir, circular in plan. An empirical discharge formula for a circular weir has also been determined."

Rock, Elmer. Design of a high-head siphon spillway. Amer. Soc. Civ. Engin. Proc. 65(4):607-618. April 1939.

Synopsis: "A direct and clear-cut method of analysis for use in determining the proportions of a high-head siphon spillway, is presented in this paper. The manner in which well-established principles of hydraulics are applied is outlined, general equations for the determination of throat area and outlet area are derived, and the application of the method as presented is illustrated by the solution of a specific problem."

### Strip Cropping

Nygard, I.J. and Bullard, L.E. Effect of erosion on long-time strip cropping in Bush valley, Minnesota. Soil Conserv. 4(10):239-241, 249, illus. April 1939.

Tells of the employment of strip cropping, in the Swiss manner, on a Minnesota farm, purchased in 1876.

### Terracing

Hamilton, C.L. A national terrace classification. Agr. Engin. 20(3): 95-96, 98, illus. March 1939.

Calls attention to the need of constructive thought and basic coordination in terms to designate similar types of terraces.

Missourians organize for custom terracing. U.S. Ext. Serv. Rev. 10(4):57. Mar/Apr. 1939.

An organization known as the Missouri Terracing and Conservation Contractors' Association was formed at the close of Missouri's annual farmers' week on October 27, 1938. Services rendered to farmers by

these contractors include laying out the terrace lines in accordance with correct engineering practice, actual construction of the terrace ridge on the lines surveyed, the construction of waterways, and all types of scraper and fill work required in building terrace and outlet systems.

Stephens, J.C. Theory of terrace gradient. Agr. Engin. 20(4):149-152, illus. April 1939.  
"Literature cited," p. 152.

### Turbulence

Dryden, H.L. Recent developments of the theory of turbulence. Jour. Applied Mech. 4(3):A-105-A-108, illus. September 1937.  
Bibliography, p. A-108.

### Vegetation

Blair, W.F. and Hubbell, T.H. The biotic districts of Oklahoma. Amer. Midl. Nat. 20(2):425-454. September 1938.

"Three major biotic areas - each with a distinctive Orthopteran and Mammalian fauna - occur in Oklahoma. The major biotic areas are divided into biotic districts which are distinguished by characteristic physiographic features and plant associations, by characteristic species and races of Orthoptera and mammals, and by characteristic assemblages of Orthoptera and mammals. Thus the eastern deciduous forest in Oklahoma is divided into the Ozark, Ouachita, Mississippi and Cherokee Prairies districts. The Great Plains grasslands are divided into the mixed-grass Plains, Mesquite Plains and Short-grass Plains districts. The southern Rocky Mountains are represented by the Mesa de Maya district. The Osage Savanna district is an area of transition from the deciduous forest to the Great Plains grasslands. The Orthoptera and Mammals of Oklahoma agree in showing little north-south zonation, but marked east-west zonation, indicating that precipitation and not temperature is the most important factor controlling (although indirectly) the distribution of these groups in the state." -- W.F. Blair, in Biol. Abst. 13(2):1822. February 1939.

Dawkins, C.J. Tussock formation by Schoenus nigricans: the action of fire and water erosion. Jour. Ecology 27(1):78-88, illus. February 1939.

"Schoenus in the Oxford district occupies habitat where a richly calcareous water table is kept permanently near the ground surface...

"When the ground on which a Schoenetum forms is sloping, the rigid, persistent, vertically growing and compact Schoenus peat is the only part of the soil which is able to resist water erosion; thus Schoenus plants grow up and form tussocks, while the soil between them does not increase (appreciably) in depth."

Judd, B.I. and Weldon, M.D. Some changes in the soil during natural succession of vegetation after abandonment in western Nebraska. Jour. Amer. Soc. Agron. 31(3):217-228, illus. March 1939.

"Literature cited," pp. 227-228.

"The investigations reported here were part of a study of the



natural succession of vegetation on abandoned farm lands in Kimball, County, Nebraska. The study was confined to the Rosebud soils... Its purposes was to determine some of the changes occurring in the soil during the process of revegetation. Native grassland areas cultivated fields, and fields abandoned for different periods of time were used. The rate of infiltration of water was observed in the field. The volume-weight, rate of percolation of water, state of aggregation and organic matter, nitrogen, and root content were investigated in the laboratory."

Kittredge, Joseph, Jr. The annual accumulation and creep of litter and other surface materials in the chaparral of the San Gabriel mountains, Calif. Jour. Agr. Research 58(7):537-541, illus. Apr. 1, 1939.

Kittredge, Joseph, Jr. The forest floor of the chaparral in San Gabriel mountains, Calif. Jour. Agr. Research 58(7):521-535, illus. Apr. 1, 1939.  
"Literature cited," pp. 534-535.

#### Water Resources and Measurement

Antevs, Ernst. Precipitation and water supply in the Sierra Nevada, California. Amer. Met. Soc. Bull. 20(3):89-91. March 1939.

Carpenter, J. D. Watershed yields. Jour. Amer. Water Works Assoc. 31(1): 133-136. January 1939.

A paper on water measurement and recording developments in Pennsylvania, presented at the Four States Section meeting, Washington, D.C., Oct. 7, 1938.

Clyde, G. D. Forecasting stream flow from snow surveys. Methods for producing total quantity and daily distribution of flow over critical periods. A paper from the 1938 Water conservation conference in Salt Lake City. Civ. Engin. 9(4):237-242, illus. April 1939.

Connaughton, C. A. Watershed management - more than mere protection. Jour. Forestry 37(4):341-342. April 1939.

The writer, believing that individuals confuse watershed management with one of its many phases offers the following definition: "Watershed management is the practice of handling the resources of a drainage basin to produce maximum yields of usable water. Erosion control and prevention, flood control, stream flow regulation and stabilization and other similar activities are included in watershed management although each one is only a phase of the broad subject."

Davis, W. F. Measurement of precipitation above forest canopies. Jour. Forestry 37(4):324-329, illus. April 1939.

"Literature cited," pp. 328-329.

Describes a method for tree-crown precipitation gaging, which employs a simple hoist device.

Ewald, R. F. Data on rainfall for the larger drainage areas. Civ. Engin. 9(4):254, illus. April 1939.

Refers to "material deviations from correct values for some areas" in article by S. M. Bailey and G. R. Schneider, "The Maximum Probable Flood and Its Relation to Spillway Capacity" - Civil Engineering, January 1939.



Hoyt, J.C. Fifty years of water resources study. Engin.News-Rec. 122(11):396-397, illus. Mar. 16, 1939.

Traces history of water resources data collection from 1888.

Keen, B.A. What happens to the rain? Quart.Jour.Roy.Met.Soc. 65(280): 123-137, illus. April 1939.

Presidential address delivered before the Royal Meteorological Society on January 18, 1939.

Summary: "An annual rainfall of 30 in. means that 3,000 tons of water fall on an acre of land. In the course of the year this all disappears, by run-off, evaporation, transpiration, through vegetation and by downward percolation. The relative importance of these factors in British and overseas conditions is discussed..."

Lippincott, J.B. Southwestern border water problems. Jour.Amer. Water Works Assoc. 31(1):1-28, illus. January 1939.

Review of Second International water boundary commission, Rio Grande tri-state compact, Mexican program for tributaries of the lower Rio Grande, the Colorado river basin, numerous purposes of the Hoover dam, diversion threat to increased salinity, division of Colorado river water, first international water commission, early irrigation projects of the lower river, irrigated and irrigable lands in lower California.

Lochov, P. Calculation of atmospheric precipitations detained by the forest, by the method of artificial rainfall. Meteorol. i Hidrol. 4(6):97-104, illus. 1938.

Article in Russian.

Meigs, Peveril, 3rd. Water planning in the great central valley, California. Geogr.Rev. 29(2):252-273, illus. April 1939.

Moore, C.R. The Willamette basin project. Mil.Engin. 31(177):208-211, illus. May/June 1939.

The adopted plan for the Willamette basin in Oregon is designed to relieve the flood threat and at the same time provide for the present and future conservation and use of the water resources of the valley for navigation, power and stream purification.

Utah farmers test water requirements. West.Farm Life, Mar. 15, 1939, page 25.

Analysis of data collected from an experiment on a group of farms in Weber and Davis counties reveals "that the total seasonal requirement of water for best farm practice was considerably less than that usually applied; soil erosion was kept to a minimum and crops were actually improved with smaller applications of water."

### Wildlife Management

Bringing wildlife back alive. Game is economic asset to farmers.

Missouri Ruralist 80(5):5, 22, illus. Mar. 4, 1939.

Mentions part played by soil conservation work in benefiting wildlife in Missouri.

Clark, A.L. Cash for aiding wildlife. Missouri Ruralist 80(6):5,18, illus. Mar.18,1939.

Missouri is one of 6 states in the Union in which there is being launched a program for paying cash to owners for land devoted to the growing of cover and food crops for game, and trees for soil retention under a plan recently approved by the AAA and the Missouri Agricultural Conservation Committee.

Compton, L.V. Wildlife and the range. Soil Conserv.4(9):215-217. March 1939.

Cox, W.T. Marsh firebreaks.- a boon to wildlife. Amer.Forests 45(3):109-111,137. March 1939.

The writer tells of plans for developing the Beltrani Project area in Minnesota into one of the largest wildlife areas on the continent. He says in part: "Small and cheap control dams in great numbers were constructed, mostly in 1936, to hold and regulate water in the (existing drainage) ditches... In the brief time the ditches have been so largely under control the improvement of the area and the increase in wildlife have been very striking. Fires have been practically eliminated from what used to be one of the very worst fire districts in the country... The belts of wet marsh have served to keep them out... The marsh firebreaks... were also intended to serve as breeding grounds for wildlife and their value in this respect have been just as strikingly demonstrated."

Dachnowski-Stokes, A.P. Improvement of unproductive and abandoned peatland for wildlife and related uses. Ecology 20(2):187-197. April 1939.

The author indicates that peat investigations can contribute something to the understanding of the fundamental problems of peatland in relation to water conservation and wildlife restoration. He states that "peatland is economically significant for other than agricultural uses. It can be improved and utilized wisely for the protection of wildlife, the growth of timber, or other practical benefits and at the same time, conserve surface and ground waters, mitigate floods and subsequent stream erosion, and preserve organic raw material for future generations."

Davis, C.N. Utilizing farm ponds for wildlife. Soil Conserv.4(9):230-232. March 1939.

Enlow, C.R. Hedges conserve soil and wildlife. Soil Conserv.4(9):209, 223, illus. March 1939.

Describes use of hedges in France.

Grimm, W.C. Along the fencerow. Penn.Game News 10(1):13. April 1939.

The author pleads for the preservation of fencerows as havens for wildlife. He says that "a careful survey of the woody plants which spring up along these rail fences will disclose a surprisingly large number of those which provide food for the wild creatures in the form of nuts, or fruit such as berries".



Holt, E.G. Birds and beasts aid erosion control. Amer. Wildlife 28(2): 79-86, illus. Mar/Apr. 1939.

Explains the close relationship of soil conservation and wildlife welfare.

Holt, E.G. What is a biologically balanced farm? Soil Conserv. 4(9): 206-208, illus. March 1939.

Hosley, N.W. Plants for wildlife food. Conn. Woodlands Rev. 4(1): 13-16. January 1939.

Native trees and shrubs of New England as food for game.

[Leopold, Aldo.] Plant evergreens for bird shelter. Wisc. Agr. and Farmer 66(9): 5, illus. May 6, 1939.

Peterson, W.A. Wildlife in the land utilization program. Soil Conser. 4(9): 229. March 1939.

### Wind Erosion

Simons, H.F. Junked car bodies protect pipe line. Oil and Gas Jour. 37(39): 35, illus. Feb. 9, 1939.

In Kiowa county, Kansas junk car bodies and highway fences are being used to protect the 24-inch gas lines from wind erosion. It is said that "sand dunes in this section cause whirling currents which sometimes erode the sand to depths from 10 to 12 feet. Much of the protective soil covering was being blown from the gas line and maintenance crews were kept busy sounding the line and backfilling where the cover was not sufficient."

Stoeckeler, J.H. and Bates, C.G. Shelterbelts: the advantages of porous soils for trees. Jour. Forestry 37(3): 205-221, illus. March 1939.

"Literature cited," pp. 220-221, illus.

"This article treats of the moisture supply available for trees planted in the plains region, with particular reference to the effect of soil quality and porosity upon the storage and availability of whatever precipitation may be received. It attempts to explain by moisture accumulation records obtained in Oklahoma, and other data, the natural tree or shrub growth which frequently is found on sandy soils, in contrast to the 'short grass' characteristics of the finer soils under the same climatic conditions and the much greater difficulties which they present to the tree planter. It closes with a brief description of special moisture-conserving measures which may be necessary for reasonable tree success on the 'hard' lands."

Taylor, K.W. Shelterbelts as recreation areas and game refuges. Parks & Recreation 22(7): 352-357, illus. March 1939.

A consideration of the field shelterbelts being planted on the Plains by the Forest Service to prevent soil blowing and to protect crops from the winds.

Trenk, F.B. Wisconsin's shelterbelts grow longer. Wisc.Conserv.Bull. 4(4):3-8, illus. April 1939.

"It is an epic story, this mass interest in Wisconsin in tree belts to shelter farm acres, the generous cooperation of the state in furnishing the trees, and the community enterprise in distributing and planting them, to the end that tree belts might permanently stop the shifting and blasting of sandy soils."

### Woodland Management

Andrews, J.K. Practical aid to farm tree planting. Immediate cash returns to farmers, not low-cost nursery stock, offers solution to problem. Amer.Nurseryman 69(8):14-16. Apr.15, 1939.

Edminster, F.C. Improving farm woodland for wildlife. Soil Conserv. 4(9):212-214, 223. March 1939.

Knapp, J.S. Woodlot owners cooperate. Amer.Agr.136(6):132. Mar.18, 1939.

"Tioga county, in southern New York, has the first private, non-subsidized cooperative that is prepared to handle all products of the farm woodlot, such as firewood, pulpwood, lumber and mine props."

Also in U.S.Ext.Serv.Rev.10(4):52. Mar/Apr.1939 under title "Forestry practices work in farm woodlands."

Otter, F.L. Profit for farmers in Washington's second-growth forests. Soil Conserv.4(10):233-236, 238, illus. April 1939.

"In Washington and the Northwest, the farmers have in their timber a soil-conserving crop which should be cherished as a gilt-edged bond."

Trees just grew. Missouri Ruralist 80(6):1, 19, illus. Mar.18, 1939.

"Spring planting will include a new crop for many Missouri farmers this year - trees..Missouri's forestry program is being extended to the farms..A total of 1,300,000 young trees are available...for wind-breaks, erosion control, or for wood or post production..."

### Writing

Clepper, H.E. Magazine writing for foresters. Jour.Forestry 37(5): 388-391. May 1939.

"The author's conclusions are based on some fifteen years of experience in part-time writing about forestry for magazines and newspapers. Since it has been largely an avocation, he makes no claim to expert knowledge of the art. But the young forestry-writer may find the suggestions helpful in his efforts in this interesting field."



BOOK AND PAMPHLET NOTES AND ABSTRACTS

American geophysical union. Section of hydrology. Bibliography of hydrology, United States of America for the year 1937. 68 numb.1., processed. Washington, D.C., 1938. 241.6 Am32 1937

"This publication is the United States cahier for the year 1937 of the International Bibliography of Hydrology established by the International Association of Scientific Hydrology."

Canada. Dept. of agriculture. Tree planting around dams and dugouts, Norman Ross, superintendent, Forestry nursery station, Indian Head, Sask. Canada. Dept. Agr. Circ. 134. Pub. 629. 9pp., illus. Ottawa, August 1938. 7 C16c

Condra, G.E. An outline of the principal natural resources of Nebraska and their conservation. Nebr. Univ. Conserv. and Survey Div. Conserv. Dept. Bull. 20. 40pp., illus. Lincoln, January 1939. 99.47 N27 no. 20

"List of references on conservation of natural resources in Nebraska," pp. 35-40.

Conference of colonial directors of agriculture. Report and proceedings of the conference... held at the colonial office July 1938. 130pp. London, H.M. Stationery office 1938. (Colonial 156) 5 C7699  
Recommendation on soil conservation, pp. 7-11.

Soil conservation - Consideration of the problem in so far as it affects the several dependencies of the Colonial Empire and an exchange of views on the measures which have been adopted against erosion and the results achieved therefrom, pp. 39-55, 115-117.

Conference on water conservation, Salt Lake City, 1938. Proceedings Water conservation conferences, Salt Lake City, Utah, July 19, 1938... 40 numb. 1. mimeogr. Salt Lake City, 1938.

At head of title: American society of civil engineers. Irrigation division... General committee on conservation of water. 292.9 C763 1938

Coster, Ch. Bovengrondsche afstrooming en erosie op Java (Surficial run-off and erosion in Java) East Indies (Dutch). Dept. Econ. Zaken. Korte Meded. Bosch-Preofsta. 64. 118pp., illus. Buitenzorg, Java, 1938. 99.9 Ea72K

In Dutch with English summary.

Croucher, H.H. and Swabey, C. Soil erosion and conservation in Jamaica, 1937. Jamaica, Dept. Sci. & Agr. Bull. 17. 20pp. Jamaica, 1938. 8J227B n.s. no. 17

"The problem of soil erosion in Jamaica is of particular interest and importance in that it concerns mainly the protection against erosion on steep hillsides many of which must of necessity be kept under cultivation... The main type of erosion... is sheet erosion... Wind erosion is not of primary importance, although on the rounded uplands of the Bull Head mountains, it aggravates sheet and gully washing of the soft conglomerates."

Giglioli, G.R. L'erosione del terreno agrario nei tropici. Ist. Agr. Col. Italiano. Relazione e Monog. Agrario-Coloniali. N.49. 95pp., illus. Firenze, 1938. 16 Is7 no.49

In Italian

Bibliografia, pp.93-94.

Erosion and its control in tropical countries.

Glover, Katherine. America begins again; the conquest of waste in our natural resources, with a foreword by Stuart Chase. 382pp., illus. New York and London, Whittlesey House, McGraw-Hill book company, inc. [c1939] 279 G51

A review of what America has done with her rich stores of natural resources and an outline of the conservation movement, its leaders and its projects. A book which should fit admirably into the social studies courses in high schools, or into conservation courses where these are now given.

Hailey, Lord. An African survey. A study of problems arising in Africa south of the Sahara... issued by the Committee of the African research survey under the auspices of the Royal Institute of International Affairs. 1837pp., illus. New York and London, Oxford University Press, 1938. 280 19 H12

Chapters of interest are the following: Chap. XIII. Agriculture; Chap. XIV. Forests; Chap. XV. The problem of water supply; Chap. XVI. Soil erosion (written by Mrs. Elspeth Huxley); Chap. XXV. Summary and conclusions.

In the chapter on erosion the situation is reviewed for the different territories including Basutoland, Swaziland, Southern Rhodesia, Northern Rhodesia, Nyasaland, Tanganyika, Kenya, Uganda, Sierra Leone, Gold Coast, Nigeria. "The main conclusions which emerge from the material set out in this chapter would seem to be that in no territory where erosion has become severe do the measures being taken appear to be adequate to reverse the process; and that, in spite of much that has been done, no co-ordinated policy has yet been formulated for the British African dependencies."

Hubbs, C.L. and Eschmeyer, R.W. The improvement of lakes for fishing. A method of fish management. Mich. Inst. Fisheries Research. Bull. 2. 233pp., illus. Ann Arbor, May 1938. 414.9 M58 no.2  
Preventing erosion and silting, pp.133-138.

International congress for applied mechanics. Proceedings of the fifth international congress... held at Harvard University and the Massachusetts Institute of Technology, Cambridge, Massachusetts, September 12-16, 1938, edited by J.P. Den Hartog and H. Peters. 748pp., illus. New York, John Wiley & Sons, Inc., 1939. 290.9 In89005

Partial contents: Application of statistical theory of turbulence to hydraulic problems, by A.A. Kalinske and E.R. Van Driest, pp.416-421; Curvilinear flow of liquids with free surfaces at velocities above that of wave propagation, pp.531-536; Experiments on the mechanics of sediment suspension, by Hunter Rouse, pp.550-554; Flow through granular media, by B.A. Bakhmeteff and N.V. Feodoroff, pp.555-560.



Iowa state planning board. Report and recommendations of the farm tenancy committee. 63pp. Des Moines, October 1938. 280.7 I091R

Among the general recommendations are the following: "1. The feasibility of setting up a state land commission with clearly defined powers and functions, perhaps including the establishment and enforcement of certain standards of land use and soil conservation measures necessary to safeguard public interest and general welfare, should be explored. 2. The taxation system of Iowa should be thoroughly examined with a view toward... (b) using the long-time productive capacity of the farm as a whole under soil conserving management in determining the assessed value of farm real estate... 4. Both urban and rural dwellers should be educated in the appreciation of rural life and the realization of their dependency upon the land and farm prosperity... 7. All Iowa laws relating to agricultural land use, farm real estate and farm tenure should be re-examined in the light of agricultural conditions, revised as necessary and assembled into one chapter of the code in easily understandable language."

Kansas academy of science. Transactions... volume 41... seventieth annual meeting, March 31, April 1 and 2, 1938, Kansas state teachers college, Pittsburg, Kansas. 416pp., illus. Topeka, 1938. 500 K13T v.41, 1938

Partial contents: Prairie studies in west-central Texas, by F.W. Albertson, pp. 77-83; Studies in breaking the rest period of grass plants by treatments with potassium thiocyanate and in stimulating growth with artificial light, by H.R. Shepherd, pp. 139-153.

Lord, Russell. Behold our land. 310pp., illus. Boston, Houghton Mifflin company, 1938. 56.22 L88

"Recommended reading," pp. 309-310.

The commercial version of U.S. Department of Agriculture. Miscellaneous Publication 321 entitled "To Hold This Soil."

McAtee, W.L. Wildfowl food plants; their value, propagation, and management. 141pp., illus. Ames, Iowa, Collegiate press, inc., 1939.

47.5 M11

"Literature cited," pp. 123-125.

Chapter headings are as follows: Productivity, value, and utilization of wildfowl food plants; Account of wild-duck food plants by families; Environmental limitations on the growth of aquatic plants; Planting suggestions; Construction of ponds; Control of undesirable plants and animals; Vernacular names of wildfowl food plants.

Maughan, William. A guide to forestry activities in North Carolina, South Carolina and Tennessee. 287pp., illus. [Asheville, N.C.] Appalachian section, Society of American foresters, January 1939. 99.61 M44

"The first works of its kind prepared for a region in the U.S., this guide contains complete information on the history, development, program and personnel of the forestry agencies in three states.

Minnesota academy of science. Proceedings... papers presented at sixth annual meeting, St. John's university, April 23, 1938. 88pp., illus. (n.p., 1938?), 500 M663 v.6 1938

Infiltration and capillary rise in sandy soils, by W.M. Johnson, pp. 44-51.



Oklahoma planning and resources board. Division of water resources.  
Speciman plans and information to be used in the design of small  
earth dams in Oklahoma, by W.C. Burnham. 15pp., illus. Oklahoma  
City 1938. 280.7 Ok43S

Peel, W.R. Grassland management for the practical farmer ..with a  
foreword by Prof. R.G. Stapledon. 191pp. London, Macmillan and co.,  
limited, 1938. 60 P34

Chapter headings, which give an idea of the scope, are as follows:  
Grasses, clovers and some other herbage plants; Some types of pastures  
and how they were formed; Improvement of pastures by ploughing and re-  
seeding; The improvement of grassland by means other than ploughing;  
Conservation of grass; Grassland management; and, Temporary pasture -  
sowing down land to grass.

Portland cement association, Chicago. Soil saving (which means dollar  
saving) with concrete. 15pp., illus. Chicago, Ill., Portland cement  
association, [1938?], 56.7 P83

Describes types of soil saving dams developed at Iowa state college  
and the University of Nebraska.

Pryor, W.C. and Pryor, H.S. Water - wealth or waste. 242pp., illus.  
New York, Harcourt, Brace and company, [c1939], 292 P952

Written in elementary style with a view to interesting juvenile  
readers. Chapter headings include Floods, Flood Control, Water and the  
Land, and Water Makes the Farm Go.

Raisz, Erwin. General cartography 370pp., illus. New York and  
London, McGraw-Hill book company, inc., 1938 325 R13

"Bibliography of easily available references," pp. 357-359.

"There is now no good reason why the author of a paper in geology,  
geography, engineering, or any other field in which graphic illustra-  
tion is frequently used, should not furnish it with illustrations of  
a high order. Armed with this excellent book (and also with Rideway's  
Scientific Illustration, which supplements it well) and the will to a  
certain amount of practice, the author ought to be able to make (or  
supervise) his own illustrative material.

"The volume is a general working text and handbook, containing many  
helpful suggestions. It briefly sketches the history of cartography,  
discusses scales and projections, symbols, representation of relief  
features, lettering, drafting and reproduction of maps. The construction  
of graphs and other kinds of diagrams is explained, and there are even  
sections devoted to relief models, globes and lists of the important  
official map series in all parts of the world...

The book is a helpful tool and deserved wide use." From review by  
R.F. Flint in Amer. Jour. Sci. 237(3):224-225. March 1939.

Chap. 32 gives useful information on preservation and cataloguing of  
maps.

Regional roadside and shade tree conference, Iowa state college, February  
22-23, 1938. Regional roadside and shade tree conference. 38 numb. 1.,  
mimeogr. Ames, Iowa, Iowa State College, 1938. 99.9 R26

Partial contents: The ecological approach to roadside planting, by  
J.M. Aikman, leaves 29-32; Soil conservation and its application in road-  
side improvement, by A.M. Davis, leaves 36-38.



Soils and foundation conference of the U.S. Engineer department.

Proceedings of the...conference...June 17-21,1938,Boston,Mass.

v.p.,mimeogr. Boston,Mass.,January 1939. 152.26 So3

Partial contents:The shearing resistance of soils and its relation to the stability of earth dams,by Arthur Casagrande pp.A.1-A.20.

South Africa.Department of agriculture and forestry. Soil erosion control in the union.Review of progress made in soil-erosion control, more particularly of the work carried out by the various state departments. 36pp.,tables. Pretoria,September 1938. 56.7 So83

South Australia.Soil conservation committee. Report...together with maps and appendices. 58pp.,illus. Adelaide,1938. folio 56.7 So82

W.J.Spafford,Director of Agriculture,is chairman of the committee which visited all regions in South Australia and then drafted this report on erosion conditions with recommendations for control.

Wind and water erosion are dealt with separately.

Tella,Giuseppe di and Bay,Francesco. Le correzioni dei torrenti. 273pp.,illus. Firenze,S.A.G.Barbera editore,1939. (Biblioteca della bonifica integrale,v.5,parte 3.Le Sistemazioni idraulico-forestali,tomo 1) 282 B47 v.5,pt.3,t.1

Bibliografia,pp.255-262.

In Italian.

English summary:"A rational setting of the problem of torrent correction and mountainous soil conservation,which is a fundamental problem for the national economy and for water control,requires preliminary knowledge on torrentiality factors and on the causes which treat disorder in mountainous lands.This volume has therefore been conveniently divided in two sections;the first is of a general and introductory character while the second is more strictly technical.

"In the first section Prof.Di Tella deals with the geodynamic and petrographic conditions,which explain the causes of erosion and their effects on the degradation of mountains;he also gives an account of the influence of man,forests and pastures and ultimately he analyzes the torrential phenomenon in relation to transport and silting of solid materials resulting from erosion.

"In the second section Ing.Bay provides technicians with directions necessary to carry out works for the correction of mountain torrents either by ditch regulation('sistemazione a cunette') or regulation by terracing with dams and buttresses.

"The topic of mountain dams is therefore adequately treated both, from a statical and constructive viewpoint.There are calculation examples showing how to proceed in various situations and also essays on constructive modalities regarding the foundations and body of the dam,the top and downstream defensive works.

"Then follow directions and rules on mountain foot consolidation, draining and defence against rock falling and avalanches.Particular attention is given to the problem of stopping landslips which are classified according to their genesis and to the defensive measures adopted in each case.Therefore surface landslips,those due to mountain foot erosion and deep or mass ones are separately examined.

"The volume is enriched with photographs and illustrations which show the considerable activity devoted in Italy in recent years to

mountain land reclamation and the results attained, particularly in those watersheds which were previously in extremely bad condition."

Wayland, E. J. and Brasnett, N. V. Soil erosion and water supplies in Uganda... with appendices on water supply by C. B. Bisset and on soils and soil erosion in Karamoja by W. S. Martin. Uganda Geol. Survey Memoir IV. 89pp., illus. Uganda, Printed by the government printer, Entebbe, 1938. 408Ugl no. 4

Wisconsin. Dept. of public instruction. Helps in teaching conservation in Wisconsin schools. Part I. Bibliography on conservation for elementary and secondary schools. Part II. Teaching helps for elementary grades. Wisc. Dept. Public Instruction. Curriculum Bull. v. 1, no. 2. 99pp., illus. [Madison? 1938] 279 W752H

Wisconsin university. The regional approach to the conservation of natural resources. Wisc. Univ. Sci. Inquiry Pub. 8. 27pp., illus. Madison, September 1938. 330.9 W75 no. 8

Worthington, E. B. Science in Africa; a review of scientific research relating to tropical and southern Africa... 746pp., illus. London, Oxford university press, 1938. 330 W89

"This book is one of a series of reports prepared in connection with the African Research Survey. The problems of Africa, as they present themselves to those whose concern is with the development of the continent, are discussed in 'An African Survey'. The purpose of this volume is to summarize the present position of studies in the various sciences which have a bearing on African conditions."

Among the topics discussed are: Deterioration and erosion of soils - the nature of the problem and its importance throughout Africa; Factors leading to soil erosion; Changing vegetation of Africa; Alleged progressive desiccation.

#### STATE EXPERIMENT STATION AND EXTENSION PUBLICATIONS

##### Missouri

Clark, M. W. and Tascher, W. R. Conserving soil by contour farming. Missouri Agr. Col. Ext. Circ. 399. 19pp., illus. Columbia, February 1939. 100 M693, c, no. 399

##### New Hampshire

Barraclough, K. E. The management of farm woodlands in New Hampshire. N. H. Agr. Col. Ext. Bull. 55. 47pp., illus. Durham, December 1938. 275.29 N45 no. 55



## Pennsylvania

Pennsylvania agricultural experiment station. Dept. of agricultural economics. A preliminary economic appraisal of the soil conservation program in the Beaver run watershed, Westmoreland county, Pennsylvania, by, David H. Walter. 24 numb.l., tables., mimeogr. State College, September 1938. 281.073 P38P

In cooperation with U.S. Dept. of Agriculture, Soil Conservation Service and Bureau of Agricultural Economics.

Walter, D.H. An economic study of farming in the Crooked creek area, Indiana and Armstrong counties, Pennsylvania. Penn. Agr. Expt. Sta. Bull. 369. 42pp., illus. State College, November 1938. 100 P38 [b] Issued in cooperation with the United States Department of Agriculture, Soil Conservation Service and Bureau of Agricultural Economics.

## Texas

Standsel, R.H., Reynolds, E.B. and Jones, J.H. Pasture improvement in the Gulf coast prairie of Texas. Tex. Agr. Expt. Sta. Bull. 570. 43pp. College Station, January 1939. 100 T313 [b] no. 570

Thibodeaux, B.H., Bonnen, C.A. and Magee, A.C. An economic study of farm organization and operation in the high plains cotton area of Texas. Texas Agr. Expt. Sta. Bull. 568. 75pp., illus. College Station, January 1939. 100 T31S [b] no. 568

## Utah

Stoddart, L.A., Lister, P.B., Stewart, George, Phinney, T.D., and Larson, L.W. Range conditions in the Uinta basin, Utah; an interagency range report. Utah Agr. Expt. Sta. Bull. 283. 34pp., illus. Logan, October 1938. 100 Utl [b] no. 283

## Washington

Washington agricultural experiment station. Summary of research material on range management for Washington, prepared by Ben H. Pubols, E.H. Steffen and Pete Stallcop. 11 numb.l., mimeogr. Pullman, February 1938. 241 W272

Contents: A bibliography of selected publications and research material on range management applicable to Washington, leaves 3-5; Summaries of selected publications and research material on range management applicable to Washington, leaves 6-11.

## West Virginia

Friant, R.J. Reorganizing the farm for efficient land use. West. Va. Agr. Col. Ext. Circ. 322. 15pp., illus. Morgantown, August 1938. 275.29 W522C no. 322

## Wisconsin

Leopold, Aldo. The farmer as a conservationist. Wisc. Agr. Col. Ext. Serv. Stencil Circ. 210. 8 numb.l., mimeogr. [Madison? February 1939, 275.29 W75B no. 210

U.S. GOVERNMENT PUBLICATIONS

Agriculture Department

Campbell, R.S. and Crafts, E.C. How to keep and increase black grama on southwestern ranges. U.S. Dept. Agr. Leaflet 180. 8pp., illus. Washington, U.S. Govt. print. off., January 1939. 1 Ag84L no. 180

Edwards, A.D. Influence of drought and depression on a rural community. A case study in Haskell county, Kansas. U.S. Farm Security Admin. Soc. Research Rpt. VII. 116pp., illus., processed. Washington, D.C., January 1939. 1.95 Sol no. 7  
Bibliography, pp. 112-116.

"The fundamental purpose of the study has been to answer, if possible, the question, what happens to the social institutions and human relationships in a community that is compelled to make drastic alterations in its farming and economic life because of drought and depression."

Edwards, E.E. Selected references on the history of agriculture in the United States. U.S. Dept. Agr. Library, Bibliographical Contributions no. 26 (Ed. 2) 43pp., mimeogr. Washington, D.C., January 1939. 1.9 L61Bi no. 26 Ed. 2

Hoover, M.M. Native and adapted grasses for conservation of soil and moisture in the great plains and western states. U.S. Dept. Agr. Farmers' Bull. 1812. 44pp., illus. Washington, U.S. Govt. print. off., February 1939. 1 Ag84F no. 1812

Contains information on grasses as well as special equipment useful in planting and collection and cleaning of native grasses.

McKee, Roland. Summer crops for green manure and soil improvement. U.S. Dept. Agr. Farmers' Bull. 1750. rev. 17pp., illus. Washington, U.S. Govt. print. off., January 1939. 1 Ag84F no. 1750 rev. 1939

Shaw, C.F. and Baldwin, Mark. Bibliography of soil series. U.S. Bur. Chem. and Soils. MC-3. 167 numb. 1., mimeogr. [Washington, D.C.?] October 1938. 1.9 C49Mc no. 3

"Many scientists have advocated the establishment of an international correlation office or commission where all soil names could be registered, where priorities could be determined should two workers happen to use the same names for different soils, and where ultimately there might be filed full and complete descriptions of all soil series for reference by the soil scientists of the world.

"In 1929, as a step toward this goal, the first compilation of the names of soil series in use throughout the world (so far as they could be ascertained) was compiled and published in the annual proceedings of the American Soil Survey Association... From this work developed the present bibliography in which, in addition to the soil series name, there is given the name of the individual or organization that first discovered and described the soil, the soil-survey area in which it was discovered, the publication in which the first description was printed, and the date."



Smith, L.K. Crop insurance and the high plains. 10 numb.1., mimeogr. Washington, D.C., U.S. Dept. of Agriculture 1939. 1.9 C88S

A talk by manager of the Federal Crop Insurance Corporation, before the Regional Farm Conference, Dodge City, Kansas, March 7, 1939.

"Crop insurance and crop improvement go hand in hand. We believe that where such great land destroyers as soil erosion work slowly and imperceptibly, the crop insurance rate may serve both as a notice of the damage that is being done, and as an incentive to prevent future loss of land fertility. It seems logical that the grower who is secure in the knowledge that he will have wheat to sell every year will have an improved opportunity to plan ahead for the long pull, for the long-time use of his land."

Tillotson, C.R. Care and improvement of the farm woods. U.S. Dept. Agr. Farmers' Bull. 1177 rev. 26pp., illus. Washington, U.S. Govt. print. off., February 1939. 1 Ag84F no. 1177 rev. 1939,

U.S. Agricultural adjustment administration. Program study and discussion section. Suggestions for discussion group members. 2 nos. Washington, U.S. Govt. print. off., 1938; 1.4 Ad472D DN nos. 1 and 2.  
no. 1 Suggestions for discussion group members  
no. 2 Suggestions for group discussion leaders.  
Getting ready.

U.S. Bureau of agricultural economics. Land utilization in California. A list of references compiled by Adon Poli and Philip J. Webster. 39 numb. 1., mimeogr. Berkeley, Calif., December 1938. 1.9 Ec76Luca  
"This reference list was compiled primarily for the use of the field staff of the Bureau of Agricultural Economics, Land Utilization, Region VII. It is not intended to serve the purpose of an exhaustive bibliography, and does not supersede the 'Bibliography on Land Utilization, 1918-1936' issued by the U.S. Department of Agriculture as Miscellaneous Publication no. 284. The references are confined to the more important studies on land utilization in California and other states bordering on the Pacific Ocean, many of which are on file in the Bureau of Agricultural Economics, Land Utilization, Regional office at Berkeley."

U.S. Bureau of agricultural economics. The land utilization program for the northern Great Plains. 15pp., illus. Washington, U.S. Govt. print. off. 1938; 1 Ec7L

U.S. Bureau of agricultural economics. Research on relationships of weather to crop yields. Papers relating to objectives and progress of crop-weather research. 60pp., mimeogr. Washington, D.C., 1938. 1.9 Ec71Res.

U.S. Forest and range experiment station. Southwestern, Tucson, Arizona. Research notes, 41, 43, 44, 49, 52. 5 nos. Tucson, 1938-1939. 1.9 F7621R

no. 41. The relation of infiltration to stream flow on a southwestern mountain watershed, by Glenton G. Sykes.

no. 43. Seedlings safe from rodent destruction after a year's protection, by Hermann Krauch.

no. 44. Tentative range utilization standards. Bluestem (Agropyron

smithii) by Edward C. Crafts.

no.49. Does screening of seed spots do more than protect the spots against rodents and birds? by Hermann Krauch.

no.52. How to establish black grama on depleted semidesert ranges, by G.E. Glendening.

U.S. Forest service. Division of state cooperation. Community forests. A bibliography of publications and literature relating to community forests. U.S. Forest Serv. Div. State Coop. B-10. 14pp., mimeogr. Washington, D.C.? March 1, 1938. 1.9 F7681B no.10

Varney, H.R. Extension work in land use. 3pp., mimeogr. Washington, D.C., 1938?, 1.9 Ex891 no.1057-38

Presented at the fifth International Conference of Agricultural Economics, Macdonald College, Ste. Anne de Bellevue, Quebec, Canada, August 26, 1938.

Issued by U.S. Dept. Agriculture, Extension Service, Division of Cooperative Extension.

Wallace, H.A. Considering wildlife. A radio talk... during the National farm and home program... March 20, 1939. 4pp., mimeogr. Washington, D.C., U.S. Dept. of Agriculture, 1939. 1.9 Ag8636

#### Soil Conservation Service

Barnes, F.F. Advance report on the sedimentation survey of Barcroft reservoir, Alexandria, Virginia September 17, 1937-March 8, 1938. U.S. Soil Conserv. Serv. Div. Research. Sedimentation Studies SCS-SS-29. 13 numb.1., illus., mimeogr. Washington, D.C.? January 1939. 1.96 R31R SS-29

Barnes, F.F. and Brown, C.B. Advance report on the sedimentation survey of Burnt Mills reservoir, Silver Spring, Maryland, February 22-March 3, 1938. U.S. Soil Conserv. Serv. Div. Research. Sedimentation Studies SCS-SS-31. 14 numb.1., illus., mimeogr. Washington, D.C.? January 1939. 1.96 R31R SS-31

Bennett, H.H. A unified program of land and water conservation. 14 numb.1., mimeogr. Washington, D.C., U.S. Soil conservation service, 1939. 1.96 Ad62  
Address, National Rivers and Harbors Congress, March 23, 1939, Washington, D.C.

Brown, C.B., Searcy, J.M. and Rittenhouse, Gordon. Advance report on an investigation of silting in the York river, Virginia October 25-November 5, 1939. U.S. Soil Conserv. Serv. Div. Research. Sedimentation Studies SCS-SS-32. 12 numb.1., illus., mimeogr. Washington, D.C., March 1939. 1.96 R31R SS-32

Connaughton, M.P. and Barnes, L.H. Advance report on the sedimentation survey of Franklinton reservoir, Franklinton, North Carolina May 16-18, 1938. U.S. Soil Conserv. Serv. Div. Research. Sedimentation Studies SCS-SS-30. 15 numb.1., illus., mimeogr. Washington, D.C., January 1939. 1.96 R31R SS-30



Connaughton, M.P. and Hough, J.L. Advance report on the sedimentation survey of Burlington reservoir, Burlington, North Carolina April 16 to May 21, 1938. U.S. Soil Conserv. Serv. Div. Research. Sedimentation Studies SCS-SS-28. 25 numb. 1., illus., mimeogr. Washington, D.C., December 1938. 1.96 R31R SS-28

Ireland, H.A., Sharpe, C.F.S. and Eargle, D.H. Principles of gully erosion in the Piedmont of South Carolina. 143pp., illus., maps. Washington, U.S. Govt. print. off., January 1939. 1 Ag84T no. 633  
"Literature cited," pp. 140-142.

Rosencrans, L.N. and Waters, E.J. Wind erosion cuts Michigan apple yields. U.S. Soil Conserv. Serv. Ohio Valley Reg., Dayton, Ohio. Reg. Circ. 138. 1 leaf., mimeogr. Dayton, Mar. 24, 1939. 1.96 So39Rc  
Chart presents a summary of observations obtained by the Benton Harbor project on two apple orchards on soils having various degrees of erosion.

Rule, G.K. Land facts on the southern plains. U.S. Dept. Agr. Misc. Pub. 334. 22pp., illus., fold. map. Washington, U.S. Govt. print. off., 1939. 1 Ag84M no. 334

The text briefly describes the complex pattern of physical conditions in the southern Great Plains (portions of Kansas, Colorado, Oklahoma, Texas and New Mexico) as influenced by variations in climate and soil. A map of the entire region shows those areas in which physical conditions are similar and in which certain crops are best adapted.

U.S. Soil and water conservation experiment station, Blackland, Temple, Tex. Soil and water conservation investigations. Progress report of the Blackland soil and water conservation experiment station, Temple, Tex., 1931-36, by E.B. Deeter..., and, P.L. Hopkins... 66 numb. 1., illus., mimeogr. U.S. Soil Conserv. Serv. Div. Research. Section of Soil and Water Conserv. Expt. Sta. SCS-ESR-7. Washington, D.C., December 1938. 1.96 R31E no. 7

"Literature cited," leaves 64-65.

"Contribution from Section of Soil and Water Conservation Experiment Stations, Division of Research, Soil Conservation Service and Texas Agricultural Experiment Station cooperating in research."

U.S. Soil and water conservation experiment station, Central Piedmont, Statesville, N.C. Soil and water conservation investigations. Progress report... 1930-35, by F.O. Bartel..., and, C.S. Slater. U.S. Soil Conserv. Div. Research. Section of Soil and Water Conserv. Expt. Sta. SCS-ESR-6. 134 numb. 1., illus., mimeogr. Washington, D.C. October 1938. 1.96 R31E no. 6

"Contribution from Section of Soil and Water Conservation Experiment Stations, Division of Research, Soil Conservation Service and the North Carolina Experiment Station cooperating in research."

"The report is a combination of two unpublished reports prepared by F.O. Bartel... and E.P. Deatruck... The soils and agronomic work of the station from 1930 through 1933 was carried on under the direction of J.M. Snyder, former superintendent of the station."

U.S. Soil and water conservation experiment station, Zanesville, Ohio.  
Soil and water conservation investigations. Progress report of the  
Northwest Appalachian soil and water conservation experiment station,  
Zanesville, Ohio, 1933-37, by H.L. Borst... Russell Woodburn. U.S. Soil  
Conserv. Serv. Div. Research. Section of Soil and Water Conserv. Exp. Sta.  
SCS-ESR-8. 58pp., illus. [Washington, D.C., January 1939.

Literature cited, pp. 57-58.

Contribution from Section of Soil and Water Conservation Experiment  
Stations, Division of Research, Soil Conservation Service, the Ohio  
Agricultural Experiment Station and College of Agriculture, The Ohio  
State University cooperating in Research.

U.S. Soil conservation service. Farm forestry, from the viewpoint of  
the Soil conservation service, by John F. Preston, Division of Forestry.  
10 numb. 1., mimeogr. Washington, D.C., 1939, 1.96 Ad6Mm no. 3282

U.S. Soil conservation service. From ridge to river. 13pp., illus.  
[Washington, U.S. Govt. print. off., February 1939, 1.6 So3F

U.S. Soil conservation service. Division of watershed and conservation  
surveys. Erosion and related land use conditions on the Minot area,  
North Dakota. 37pp., illus., maps. Washington, U.S. Govt. print. off.,  
1938. 1.6 So3E Minot area, N. Dak.

By Nicholas Holowaychuk and William C. Boatright.

In this Great Plains region wind-erosion and water erosion control  
practices are indicated to be necessary.

U.S. Soil conservation service, Ohio valley region, Dayton, Ohio. Formula  
for successful tours. U.S. Soil Conserv. Serv., Ohio Valley Reg. Reg.  
Circ. 127. 3 numb. 1., mimeogr. Dayton, Feb. 9, 1939. 1.96 So39Rc

U.S. Soil conservation service, South. Great Plains region, Amarillo, Tex.  
Problem-area groups of land in the southern Great Plains under the  
direction of H.H. Finnell. 40pp., tables, map Washington, U.S. Govt.  
print. off., February 1939. 1.6 S63P

"The text presents a general picture of each problem-area group  
in terms of the physical factors that enter prominently into the  
different combinations that characterize the 10 problem-area groups.

"Although irrigated areas do not compose a problem-area group they  
are discussed as a unit because it is necessary to use on these areas  
soil conservation practices that differ from those employed on the  
nonirrigated areas.

"Soil and water conservation measures that are needed for the  
most efficient utilization of soil and water resources consistent  
with erosion control and safe land use are recommended..."

### Geological Survey

Gregory, H.E. The San Juan country; a geographic and geologic recon-  
naissance of southeastern Utah. U.S. Geol. Survey. Prof. Paper 188.  
123pp., illus. Washington, U.S. Govt. print. off., 1938. 407 G29Pr no. 188  
With contributions by Malcolm R. Thorpe.



U.S. Geological survey. Geology and ground water resources of the Snake river plain in southeastern Idaho, by H.T. Stearns, Lynn Crandall and W.G. Steward, U.S. Geol. Survey. Water Supply Paper 774. 268pp., illus. Washington, U.S. Govt. print. off., 1938. 407 G29W no. 774

U.S. Geological survey. Surface water supply of the United States 1937. Part 7, lower Mississippi river basin. U.S. Geol. Survey. Water-supply Paper 827. 173pp. Washington, U.S. Govt. print. off., 1938. 407 G29W no. 827

### Miscellaneous

Hurd, C.J. Organizing for progress in rural electrification, [by] acting chief, Agricultural engineering development division, Department of agricultural industries, Tennessee valley authority. 10 numb. l., mimeogr. [Washington?], 1938.

Presented at the annual meeting of the American society of agricultural engineers, Asilomar, California, June 27-30, 1938.

Touches on the effective contribution which rural electrification can make towards solving the erosion problem, in part, by making possible certain types of intensive farming on rich bottom lands so that the upland can be devoted to soil building crops.

U.S. Laws, statutes, etc. Laws relating to vocational education and agricultural extension work, compiled by Elmer A. Lewis... 86pp. Washington, U.S. Govt. print. off., 1938 275 Un34 1938

U.S. Library of congress. Division of bibliography. A selected list of books on statistical methods and their application, compiled by Helen F. Conover... 23pp., mimeogr. [Washington, D.C.], 1938. Bibl. File

U.S. National park service. National park service manual of the branch of forestry. 75 numb. l., mimeogr. [Washington, D.C.], 1938, 98.6 Un303

Contains information on fire protection, insect control, forest pathology and tree disease control, type mapping, planting, forest nurseries, erosion control, grazing.

U.S. National resources committee. Federal relations to research. 30pp. Washington, U.S. Govt. print. off., January 1939 173.2 N214Fed.

U.S. National resources committee. State conservation of resources, by Clifford J. Hynning. 116pp., illus. Washington, U.S. Govt. print. off., 1939. 173.2 N214Stc

"It is the purpose of this study to point out, in the period before 1933, some of the long streams of governmental interests and activities which, under the general term 'conservation' have led to conservation and planning for resources...

"In delimiting the scope of the study, the word 'resources' has been used to include the conventional classification of natural resources, such as land (which subsumes forests and wildlife) minerals, and water, and also human resources..."

U.S.National resources committee.Water resources committee.Subcommittee on small water storage projects. Low dams.A manual of design for small water storage projects. 43lpp,illus. Washington,U.S. Govt. print.off.,1938. 173.2 N214Lo

"The concept of low dams,as covered in this work,includes those structures with heights to the spillway crest not exceeding 30 feet above the natural stream channel."

"This manual is addressed to the designer of the structure,and does not include in its scope the field of construction,practices or methods." Appendix G,is however,entitled,Construction Methods and Specification.

Appendix A is Modified Rational Method of Estimating Flood Flows, by Merrill Bernard.

Appendix D is Surface Features of Watersheds,prepared by G.W. Musgrave,C.S.Jarvis and others.

Appendix H - Summary of State Laws Affecting Design and Construction of Low Dams.

Appendix I - Average and Maximum River Discharges,by C.S.Jarvis.

### Bibliographies and Lists

Magazines interested in agricultural education. 6pp.,typed.  
May 3, 1939.

Pecos river watershed.References suggested for sources of information.  
6pp.,typed. May 5,1939.

Smoky Hill watershed.Suggested references to sources of information.  
2pp.,typed. May 16,1939.

Sphagnum moss;a partial list of references. 2pp.,typed. May 9, 1939.

### TRANSLATIONS ON FILE IN THE

### SOIL CONSERVATION SERVICE LIBRARY

Agricultural organization of the Netherlands Indies. Bull.Econ.  
Indochine n.s.32:434-446. July 1939.

Translated from the French by H.S.Cunniff and K.Dacy.

U.S.Soil Conservation Service.Section of Hill Culture Research.  
Translation no.3.

Aravin, V.I. Non-uniform flow in channels with geometrically similar cross section. Sci.Res.Inst.of Hydrotech.Trans.12:56-69. 1934.  
Translated from the Russian.

University of California,Department of Mechanical Engineering.  
Translation 89.

Betz,Albert. Micromanometers. From Handbuch der Experimentalphysik  
4(1):512-551. 1931.

Translated from the German by W.P.Ott and J.C.van Uchelen,U.S.Soil Conservation Service,Cooperative Laboratory,California Institute of Technology,Pasadena,California.



Bodin, P.M. Design of stilling basins. Sci. Res. Inst. Hydrotech. 13: 79-123. 1934.

Translated from the Russian by R.S. Minicker.

Burgers, E.M. and Velikanov, M.A. The study of correlation of velocity-pulsations at various points in a stream. Sci. Res. Inst. of Hydrotech. Trans. 12: 24-29. 1934.

Translated from the Russian by Soomii.

Translation no. 11, University of California, Dept. of Mechanical Engineering, Berkeley. Works Progress Administration project no. 58.

Vadas, Eugene. Contributions to the anatomy of locust wood (Heitrage zur anatomie des robinienholzes) Naturw. Ztschr. Land u. Forstw. 3: 303-308. 1905.

Translated from the German by Samuel Grober, Cooperative agent, Section of Hill Culture Research, Soil Conservation Service.

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